

AMENDMENTS TO THE CLAIMS

CLAIM 1 (CURRENTLY AMENDED): A circuit for providing electrical current to a ~~bicycle~~  
bicycle lighting device comprising that provides external illumination to an area around the bicycle,  
wherein the circuit comprises:

a current supply circuit that supplies DC current from the a power supply to the bicycle  
lighting device along a current path, wherein the current supply circuit comprises a first transistor  
having input and output current flowing terminals structured to flow current from the power supply  
through the bicycle lighting device in response to signals applied to a control terminal of the first  
transistor; and

a current limiting circuit that includes an active resistance circuit that limits electrical current  
flowing through the current supply circuit when voltage applied to the current limiting circuit is  
above a minimum value comprising:

a second transistor having input and output current flowing terminals and a control  
terminal, wherein current flowing through the input and output current flowing terminals is  
communicated to the control terminal of the first transistor for controlling current flowing  
through the input and output current flowing terminals of the first transistor; and

a resistance coupled in series with the input and output current flowing terminals of  
the first transistor and with the control terminal of the second transistor;

wherein a voltage from the power supply is input to the resistance and to one of the  
input and output current flowing terminals of the second transistor such that a voltage applied  
to the control terminal of the second transistor through the resistance remains substantially  
constant in response to voltage fluctuations of the power supply so that substantially constant  
current flows through the input and output terminals of the first transistor.

CLAIM 2 (ORIGINAL): The circuit according to claim 1 further comprising a varying  
circuit that varies an amount of current limiting provided by the current limiting circuit.

CLAIM 3 (CURRENTLY AMENDED): The circuit according to claim [[3]] 2 wherein the varying circuit varies an amount of current limiting provided by the current limiting circuit by a plurality of discrete values.

CLAIM 4 (ORIGINAL): The circuit according to claim 3 wherein the varying circuit comprises:

- a first resistance applied to the current limiting circuit;
- a second resistance applied to the current limiting circuit and coupled in series with the first resistance; and
- a switch that selectively bypasses the first resistance so that only the second resistance is applied to the current limiting circuit.

CLAIM 5 (ORIGINAL): The circuit according to claim 4 wherein the switch comprises a transistor coupled to a node between the first resistance and the second resistance.

CLAIM 6 (ORIGINAL): The circuit according to claim 3 wherein the varying circuit comprises:

- a first resistance applied to the current limiting circuit;
- a second resistance applied to the current limiting circuit and coupled in parallel with the first resistance; and
- a switch that selectively bypasses the first resistance so that only the second resistance is applied to the current limiting circuit.

CLAIM 7 (CURRENTLY AMENDED): The circuit according to claim 6 wherein the switch comprises a transistor coupled ~~to a node between the first resistance and the second resistance in parallel with one of the first resistance or the second resistance and in series with the other one of the first resistance or the second resistance.~~

CLAIM 8 (ORIGINAL): The circuit according to claim 2 wherein the varying circuit varies an amount of current limiting provided by the current limiting circuit in a continuous manner.

CLAIM 9 (ORIGINAL): The circuit according to claim 1 further comprising an on/off control circuit coupled to the current supply circuit for selectively switching the current supply circuit on and off.

CLAIM 10 (CURRENTLY AMENDED): A circuit for providing electrical current to a bicycle lighting device that provides external illumination to an area around the bicycle, wherein the circuit comprises:

a current supply circuit that supplies DC current from a power supply to the bicycle lighting device along a current path; and

a current limiting circuit that includes an active resistance circuit that limits electrical current flowing through the current supply circuit when voltage applied to the current limiting circuit is above a minimum value;

~~The circuit according to claim 1~~ wherein at least one of the current supply circuit and the current limiting circuit comprises a field effect transistor with a resistance coupled between a gate terminal and a source terminal thereof.

CLAIM 11 (ORIGINAL):. The circuit according to claim 10 wherein the resistance comprises a variable resistance.

CLAIM 12 (CURRENTLY AMENDED): The circuit according to claim 1 further comprising the bicycle lighting device, wherein the bicycle lighting device comprises an LED coupled for receiving the current from the current supply circuit.

CLAIM 13 (CURRENTLY AMENDED): The circuit according to claim 1 further comprising the bicycle lighting device, wherein the bicycle lighting device comprises a light bulb that includes a filament coupled for receiving the current from the current supply circuit.

CLAIM 14 (CURRENTLY AMENDED): The circuit according to claim 1 further comprising the bicycle lighting device, wherein the bicycle lighting device comprises a backlight for a liquid crystal display device that is structured to be mounted to the bicycle, wherein the backlight is coupled for receiving the current from the current supply circuit.

CLAIM 15 (CURRENTLY AMENDED): The circuit according to claim 1 further comprising the bicycle lighting device, wherein the bicycle lighting device comprises a headlight structured to be mounted to the bicycle, wherein the headlight is coupled for receiving the current from the current supply circuit.

CLAIM 16 (CURRENTLY AMENDED): The circuit according to claim 1 further comprising the bicycle lighting device, wherein the bicycle lighting device comprises a tail light structured to be mounted to the bicycle, wherein the tail light is coupled for receiving the current from the current supply circuit.

CLAIM 17 (ORIGINAL): The circuit according to claim 1 wherein the current supply circuit and the current limiting circuit are structured to receive a DC signal obtained by rectifying an AC signal derived from a dynamo.

CLAIMS 18-19 (CANCELED).

CLAIM 20 (CURRENTLY AMENDED): The circuit according to claim ~~19~~ 1 wherein the first transistor comprises a first bipolar transistor, and wherein the second transistor comprises a second bipolar transistor.

CLAIM 21 (ORIGINAL): The circuit according to claim 20 wherein a voltage arising from a base-emitter voltage of the second transistor is applied to the current path.

CLAIM 22 (CANCELED).

CLAIM 23 (CURRENTLY AMENDED): The circuit according to claim ~~22~~ 21 wherein the voltage arising from the base-emitter voltage of the second transistor is applied to a node between the resistance and the first transistor.

CLAIM 24 (CURRENTLY AMENDED): The circuit according to claim 23 wherein the voltage arising from the base-emitter voltage of the second transistor is applied to a node ~~between~~ in a current path through the resistance and collector and emitter terminals of the first transistor.

CLAIM 25 (ORIGINAL): The circuit according to claim 24 wherein the resistance comprises:

- a first resistance; and
- a second resistance coupled in series with the first resistance.

CLAIM 26 (ORIGINAL): The circuit according to claim 25 further comprising a switch for selectively bypassing the first resistance so that only the second resistance is disposed in the current path.

CLAIM 27 (ORIGINAL): The circuit according to claim 26 wherein the switch comprises a transistor coupled to a node between the first resistance and the second resistance.

CLAIM 28 (ORIGINAL): The circuit according to claim 24 wherein the resistance comprises:

- a first resistance; and
- a second resistance coupled in parallel with the first resistance.

CLAIM 29 (ORIGINAL): The circuit according to claim 28 further comprising a switch for selectively bypassing the first resistance so that only the second resistance is disposed in the current path.

CLAIM 30 (CURRENTLY AMENDED): The circuit according to claim 29 wherein the switch comprises a transistor coupled to ~~a node between the first resistance and the second resistance~~ in parallel with one of the first resistance or the second resistance and in series with the other one of the first resistance or the second resistance.

CLAIM 31 (ORIGINAL): The circuit according to claim 24 wherein the second transistor has a base terminal coupled to the current path and a collector terminal coupled to a base terminal of the first bipolar transistor.